S/M No. : R1A6S9S001

Service Manual

Microwave Oven

Model: KOR-1A6S9S

✔ Caution

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information,please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS

http : //svc.dwe.co.kr Mar. 2003

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) Interlock operation, (2) Proper door closing, (3) Seal and sealing surfaces (arcing, wear, and other damage), (4) Damage to or loosening of hinges and latches, (5) Evidence of dropping or abuse.

(c) Before turning on power to the microwave oven for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

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SAFETY AND PRECAUTIONS

1. FOR SAFE OPERATION

Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury to the operator.
IF ANY OF THE FOLLOWING CONDITIONS EXIST, OPERATOR MUST NOT USE THE APPLIANCE.
(Only a trained service personnel should make repairs.)

(1) A broken door hinge.
(2) A broken door viewing screen.
(3) A broken front panel, oven cavity.
(4) A loosened door lock.
(5) A broken door lock.

The door gasket plate and oven cavity surface should be kept clean.
No grease, soil or spatter should be allowed to build up on these surfaces or inside the oven.
DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN.
The microwave oven has concealed switches to make sure the power is turned off when the door is opened.
Do not attempt to defeat them.
DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2. FOR SAFE SERVICE PROCEDURES

1. If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.
2. If any certified oven unit is found to servicing, a microwave emission check should be performed prior to servicing the oven.
   (a) inform the manufacturer, importer or assembler,
   (b) repair the unit at no cost to the owner,
   (c) attempt to ascertain the cause of the excessive leakage,
   (d) tell the owner of the unit not to use the unit until the oven has been brought into compliance.
3. If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer and the dealer immediately.

IMPORTANT

The wire in this mains lead coloured in accordance with the following code.

Green-and-yellow	: Each
Blue	: Neutral
Brown	: Live

As the colours of the wires in the manins lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter ‘E’, earth symbol or coloured green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter ‘N’ or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter ‘L’ or coloured red.

NOTE

This oven is designed for counter-top use only.

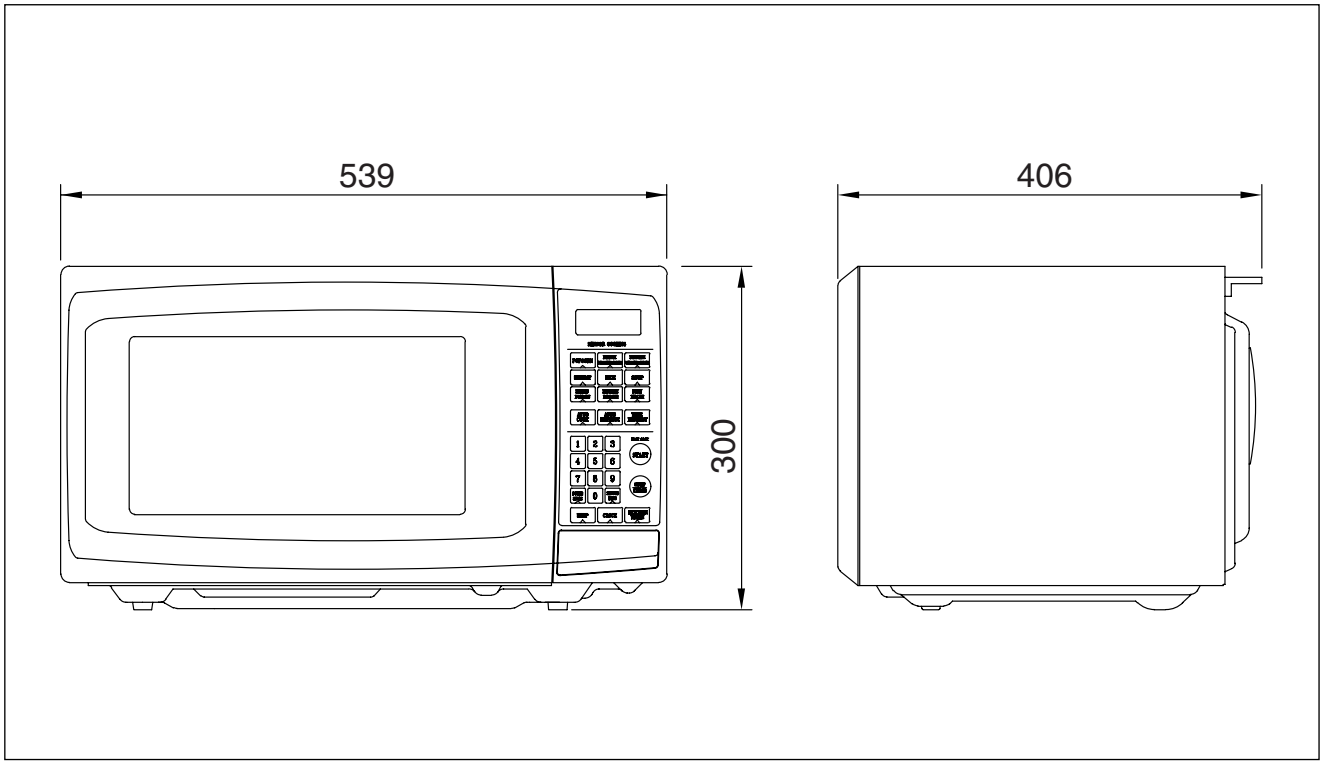
SPECIFICATIONS

MODEL		**KOR-1A6S9S**
POWER SUPPLY		230V-50Hz, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1400W
	GRILL	
	COMBINATION	
MICROWAVE ENERGY OUTPUT		1000W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		539 x 300 x 406 mm (21.2 x 11.8 x 16.0 in)
CAVITY DIMENSIONS (W X H X D)		354 x 228 x 373 mm (13.9 x 9.0 x 14.7 in)
NET WEIGHT		APPROX. 15.5 kg (34.1 lbs.)
TIMER		59 min. 99 sec.
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		10 LEVELS
CAVITY VOLUME		1.0 Cu. Ft.

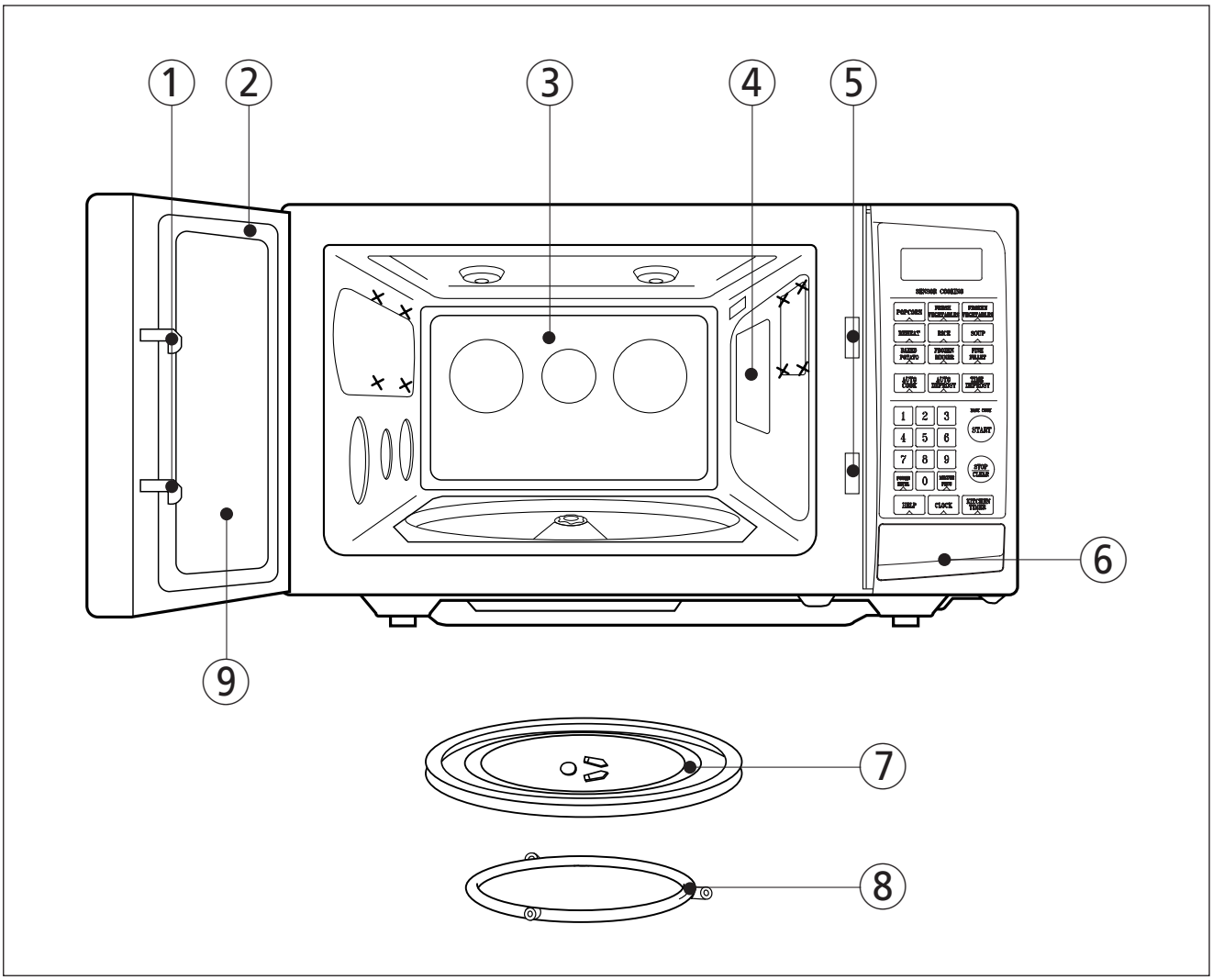
** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

EXTERNAL VIEW

1. OUTER DIMENSION



2. FEATURE DIAGRAM



① **Door latch** - When the door is closed it will automatically shut off. If the door is opened while the oven is operating, the magnetron will automatically shut off.

② **Door seal** - The door seal maintains the microwave within the oven cavity and prevents microwave leakage.

③ **Oven cavity**

④ **Spatter shield** - Protects the microwave outlet from splashes of cooking foods.

⑤ **Safety interlock system** - Prevents the oven from operating while the door is opened.

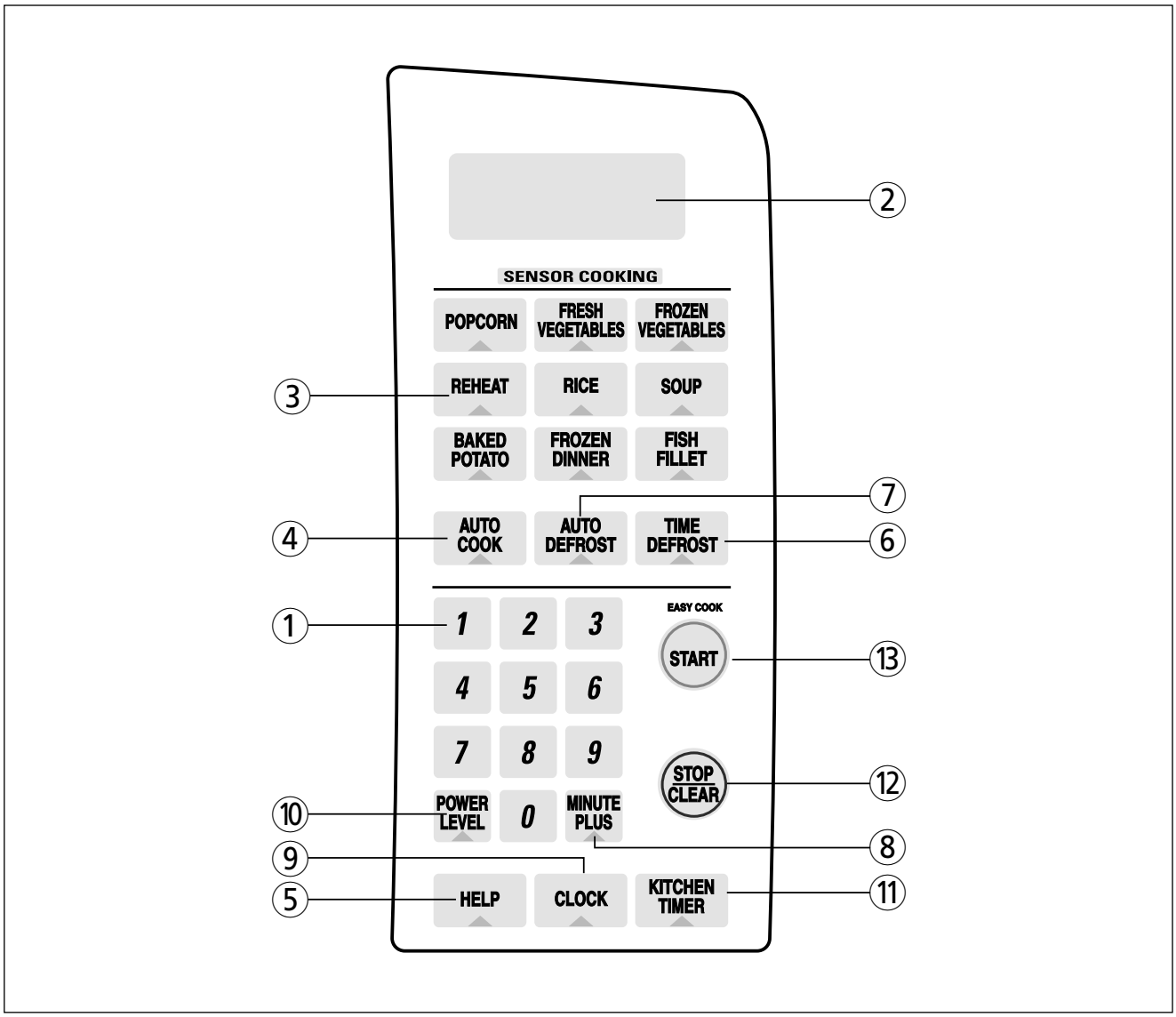
⑥ **Door release button** - Pushing this button stops oven operation and opens the door.

⑦ **Glass cooking tray** - Made of specical heat resistant glass. The tray must always be in proper position before operating.

⑧ **Roller guide** - Supports the glass cooking tray.

⑨ **Door screen** - Allows viewing of food.
The screen is designed so that light can pass through, but not the microwaves.

3. CONTROL PANEL



① **Time set pad** - Used to set the cooking time and the present time.

② **Display** - Cooking time, power level, indicators and present time are displayed.

③ **Sensor cook** - Used to automatically compute the microwave power and cooking time for foods.

④ **Auto cook** - Used to cook or reheat.

⑤ **Help** - Used to help you to operate the oven easily.

⑥ **Time defrost** - Used to defrost food. (for time)

⑦ **Auto defrost** - Used to defrost foods.(for weight)

⑧ **Minute plus** - Used to cook at 100% or to increase the cooking time by simply touching the pad.

⑨ **Clock** - Used to set clock.

⑩ **Power level** - Used to set power level.

⑪ **Kitchen timer** - Used as a minute timer, to delay the start of cooking, or to set a holding time after cooking.

⑫ **Stop/Clear** - Used to stop the oven operation or to erase all entries.

⑬ **Start /Easy cook** - Used to start the oven operation/used to increase the reheat time by 30 seconds.

INSTALLATION

1. Steady, flat location.

This microwave oven should be set on a steady, flat surface.
This microwave oven is designed for counter top use only.

2. Leave space behind and side.

All air vents should be kept a clearance. If all vents are covered during operation, the oven may overheat and, eventually, cause failure.

3. Away from radio, and TV sets

Poor television reception and radio interference may result if the oven is located close to a TV, radio, antenna, or feeder and so on. Position the oven as far from them as possible.

4. Away from heating appliances and water taps

Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5. Power supply

- Check your local power source.
  This microwave oven requires a current of approximately 12 amperes, 230 Volts, 50 Hz.
- Power supply cord is about 0.8 meters long.
- The voltage used must be the same as specified on this oven. Using a higher voltage may result in a fire or other accident causing oven damage. Using low voltage will cause slow cooking. We are not responsible for damage resulting from use of this oven with a voltage of ampere fuse other than those specified.
- This appliance is supplied with cable of special type, which, if damaged, must be repaired with cable of same type.
  Such a cable can be purchased from DAEWOO and must be installed by a qualified person.

6. Examine the oven after unpacking for any damage such as:

A misaligned door, broken door or a dent in cavity.
If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

7. Do not operate the oven if it is colder than room temperature

(This may occur during delivery in cold weather.) Allow the oven to become room temperature before operating.

EARTHING INSTRUCTIONS

This appliance must be earthed. In the event of an electrical short circuit, earthing reduces the risk of the electric shock by providing an escape wire for the electric current. This appliance is equipped with a cord having a earthing plug. The plug must be plugged into an outlet that is properly installed and earthed.

WARNING

Improper use of the earthing plug can result in a risk of electric shock. Consult a qualified electrician or serviceman if the earthing instructions are not completely understood, or if doubt exists as to whether the appliance is properly earthed, and either : If it is necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade earthing plut, and a 3-slot receptacle that will accept the plug on the appliance. The marked rating of the extension cord should be equal to or greater than the electrical rating of the appliance, or Do not use an extension cord.

OPERATIONS AND FUNCTIONS

This section includes useful information about oven operation.

1. Plug power supply cord into a standard 3- pronged 12 Amp, 230V AC 50Hz power outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray and roller guide must always be in place during cooking.
3. Shut the door. Make sure that it is firmly closed.

1 The oven light is on only when the microwave oven is operating.

2 The oven door can be opened at any time during operation by touching the door release button on the control panel. The oven will automatically shut off.

3 Each time a pad is touched, a BEEP will sound to acknowledge the touch.

4 The oven automatically cooks on full power unless set to a lower power level.

5 When the oven is plugged in, the display will show “HAVE A NICE COOKING TIME PRESS CLEAR” and “CLEAR” blinks three times.

6 Time Clock returns to the present time when the cooking time ends.

7 When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information is retained. To erase all information (except the present time), touch the STOP/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.

8 If the START pad is touched and the oven does not operate, check the area between the door and door seal for obstructions and make sure the door is closed securely. The oven will not start cooking until the door is completely closed or the program has been reset.

Make sure the oven is properly installed and plugged into the electrical outlet.

Wattage output chart

The power-level is set by pressing the POWER pad. The chart shows the display, the power level and the percentage of power.

Touch Power Level pad	Power Level (Display)	Approximate Percentage of Power
once	HIGH	100%
twice	PL-9	90%
3 times	PL-8	80%
4 times	PL-7	70%
5 times	PL-6	60%
6 times	PL-5	50%
7 times	PL-4	40%
8 times	PL-3	30%
9 times	PL-2	20%
10 times	PL-1	10%
11 times	PL-0	0%

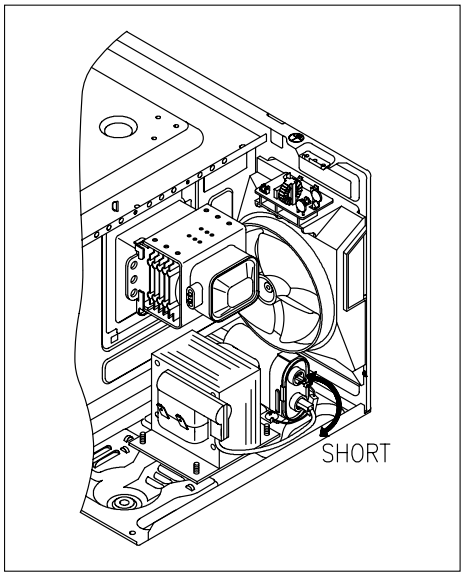
DISASSEMBLY AND ASSEMBLY

Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment.
It is completely safe during normal operation.
However, carelessness in servicing the oven can result in an electric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

1. Always remove the power plug from the outlet before servicing.
2. Use an insulated screwdriver and ware rubber gloves when servicing the high voltage side.
3. Discharge the high voltage capacitor before touching any oven components or wiring.

   (1) Check the grounding.
   Do not operate on a two-wire extension cord.
   The microwave oven is designed to be used while earthed.
   It is imperative, therefore, to make sure it is earthed
   properly before beginning repair work.
   (2) Warning about the electric charge in the high voltage capacitor.
   For about 30 seconds after the operation stopped and electric charge remains in the high voltage capacitor.
   When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor by using a properly insulated screwdriver to discharge.



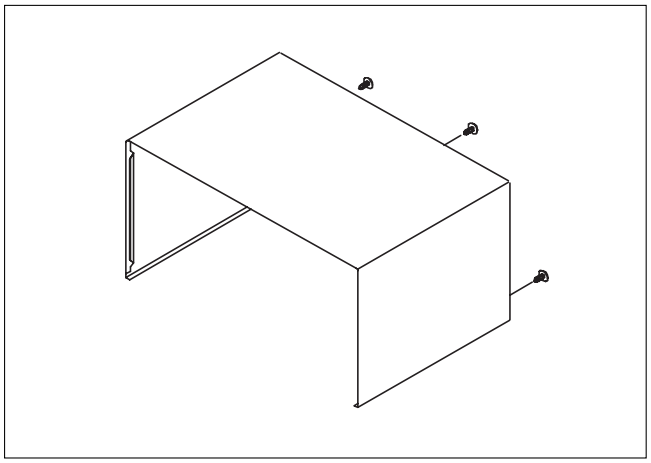
4. When the 15A fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
6. Do not operate without cabinet.

CAUTION : Service personnel should remove their watches whenever working close to or replacing the magnetron.

WARNING : When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows - HV Transformer, Magnetron, HV Capacitor, HV Diode, HV fuse.

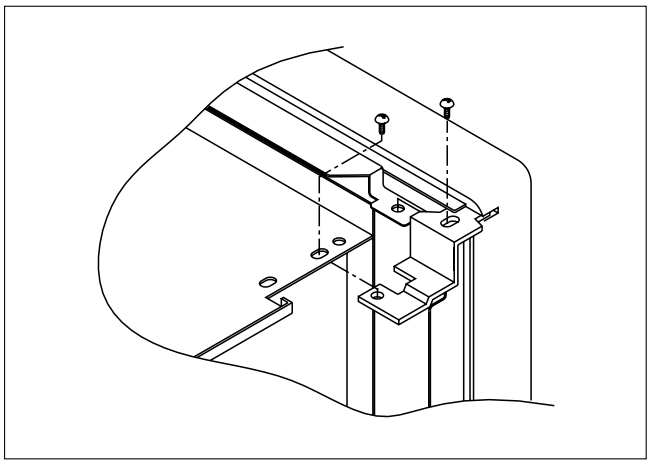
1. To remove cabinet

1) Remove three screws on cabinet back.
2) Push the cabinet backward.



2. To remove door assembly

1) Remove one screw which secure the stopper hinge top.
2) Remove the door assembly from top plate of cavity.
3) Reverse the above for reassembly.



NOTE : After replacing the door assembly, perform a check of correct alignment with the hinge and cavity front plate.

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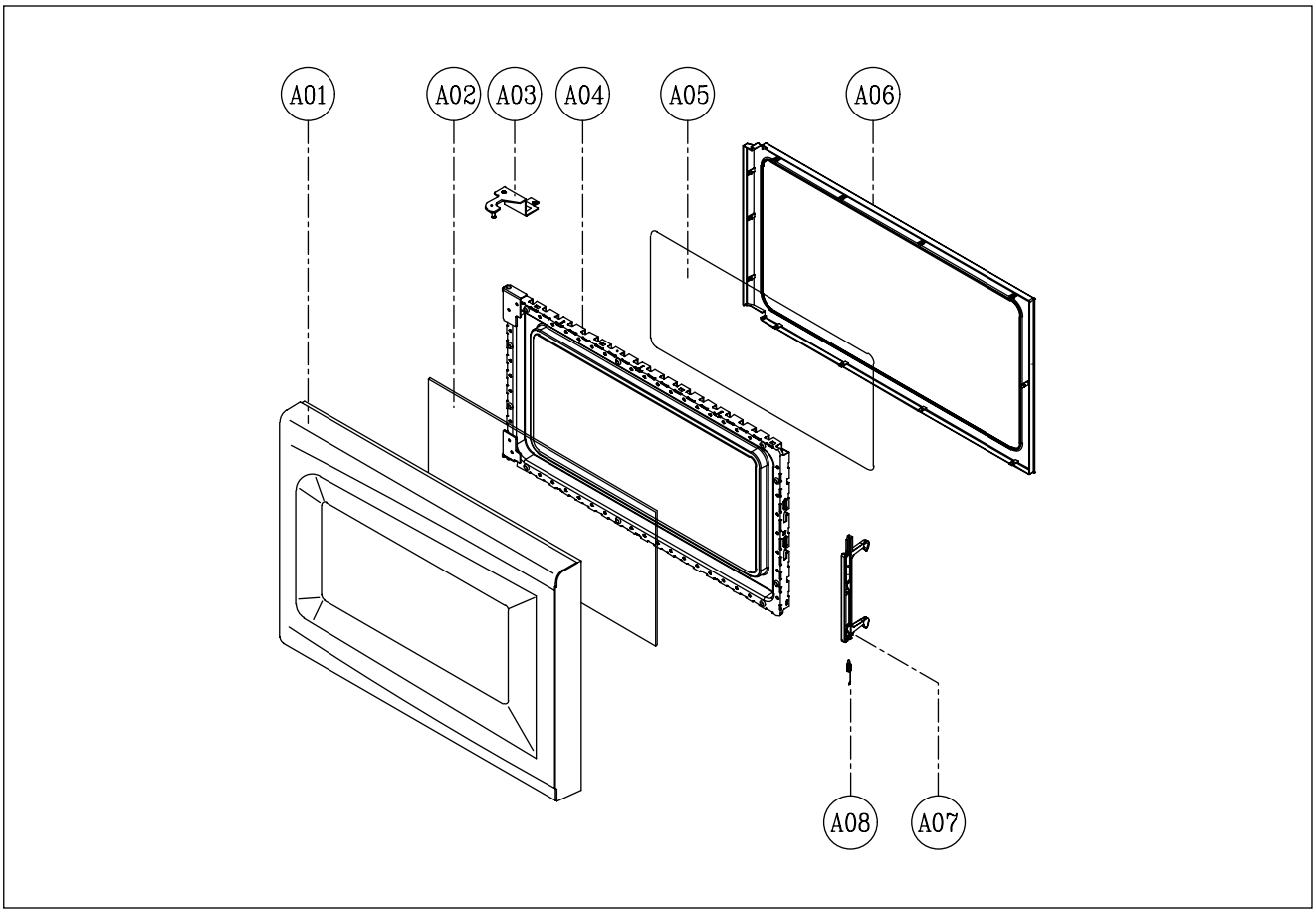
3. To remove door parts.



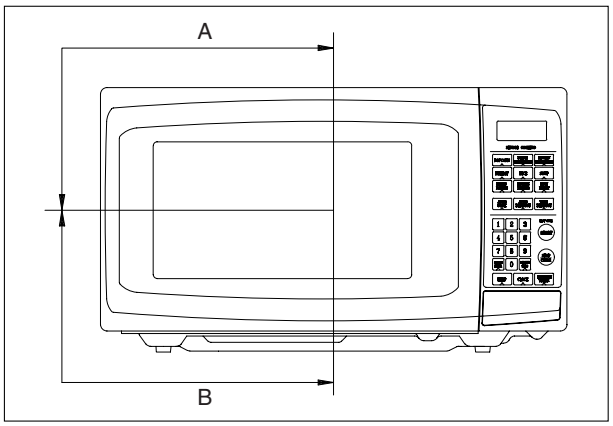
REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3512204340	FRAME DOOR	ABS SG-175 SG-0760D	1	
A02	3517005900	BARRIER-SCREEN*0	PET T0.25	1	
A03	3515202900	STOPPER HINGE *T AS	KOR-121M0A	1	
A04	3511711300	DOOR PAINTING AS	KOR-1A1G0A	1	
A05	3517005800	BARRIER-SCREEN *I	T0.1	1	
A06	3512301900	GASKET DOOR	PP 5113MF6	1	
A07	3513100720	HOOK	POM (BK)	1	
A08	3515101300	SPRING HOOK	PW1	1	

1) Remove the gasket door from door weld as.
2) Remove the barrier screen inner from door weld as.
3) Remove the door frame from door weld as.
4) Remove the stopper hinge top from door weld as.
5) Remove the spring and the hook.
6) Remove the barrier screen outer from door frame.
7) Reverse the above steps for reassembly.

4. Method to reduce the gap between the door seal and the oven front surface.

(1) To reduce gap located on part 'A'
Loosen a screws on stopper hinge top, and then push the door to contact the door seal to oven front surface.
Tighten two screws.

(2) To reduce gap located on part 'B'
Loosen two screws on stopper hinge under, and then push the door to contact the door seal to oven front surface.
Tighten two screws.



NOTE : A small gap may be acceptable if the microwave leakage does not exceed 4mW/cm^2.

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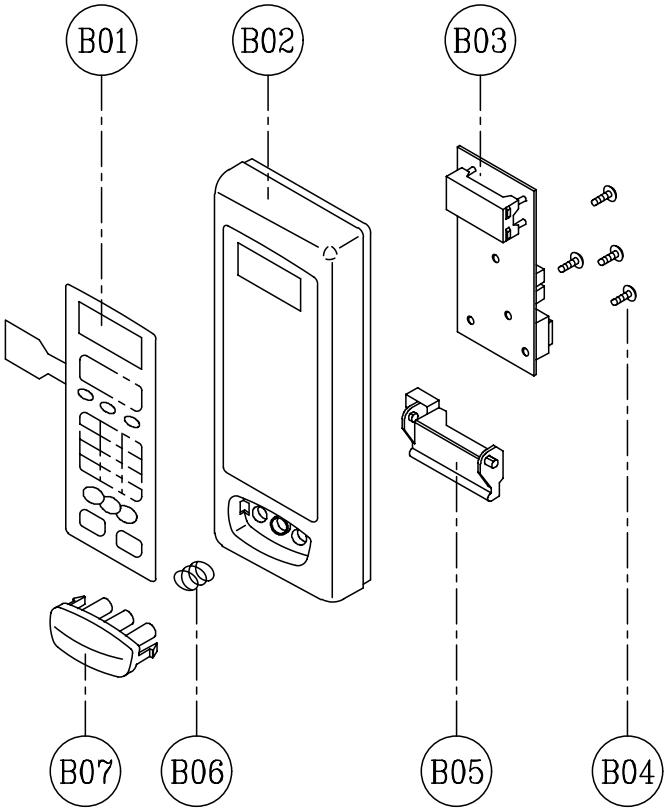
5. To remove control panel parts.

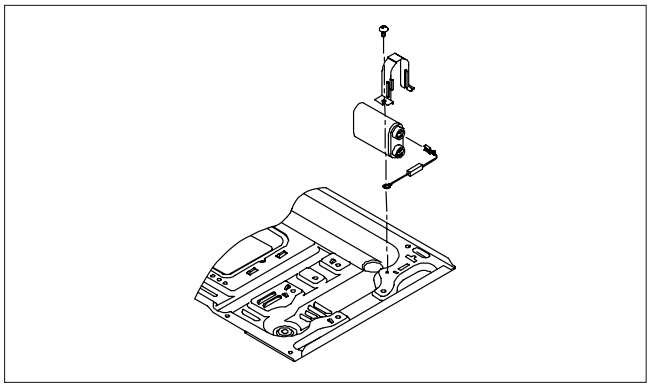


REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3518570960	SWITCH MEMBRANE	KOR-1A6S9S	1	
B02	3516727900	CONTROL PANEL	ABS AF-345 VE-0855U	1	
B03	PKMPMSAP00	PCB AS	KOR-1A6S9S	1	
B04	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	4	
B05	3513702310	LEVER DOOR OPEN	PP	1	
B06	441G430171	SPRING BUTTON	SWP DIA:0.7	1	
B07	3516907950	BUTTON DOOR OPEN	ABS AF-348 VT-0826	1	

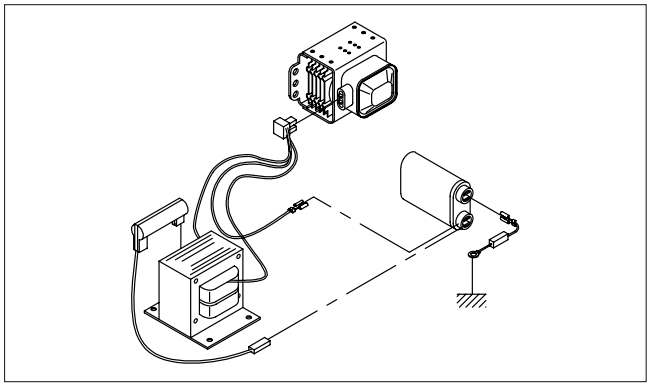
1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
2) Remove the door open lever from the control panel.
3) Remove four screws which secure the PCB assembly to control panel.
4) Disconnect membrane tail from the connector of the PCB assembly.
5) Detach membrane from the control panel.
6) Remove door open button and button spring from the control panel.
7) Reverse the above steps for reassembly.

6. To remove high voltage capacitor.

1) Remove a screw which secure the grounding ring terminal of the H.V. diode and the capacitor holder.
2) Remove the H.V. diode from the capacitor holder.
3) Reverse the above steps for reassembly.

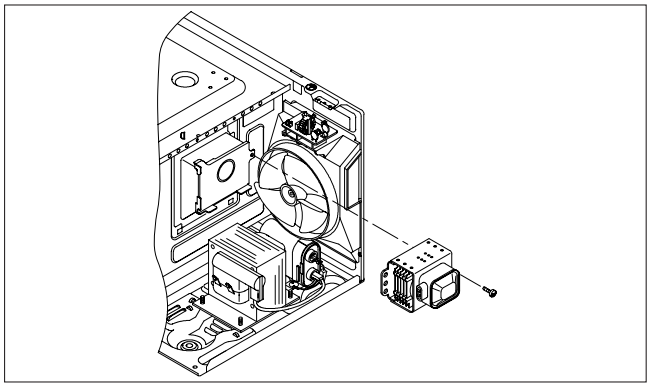


◆ High voltage circuit wiring

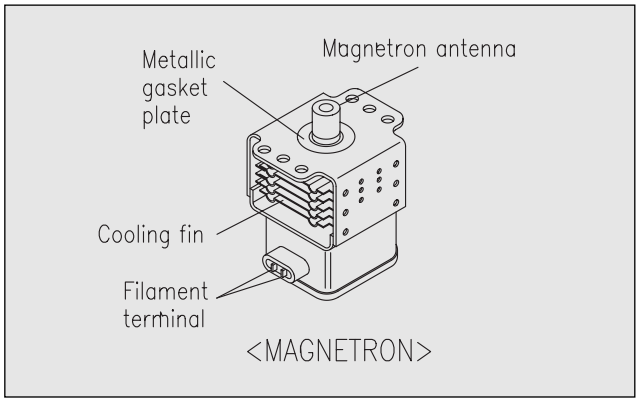


7. To remove magnetron.

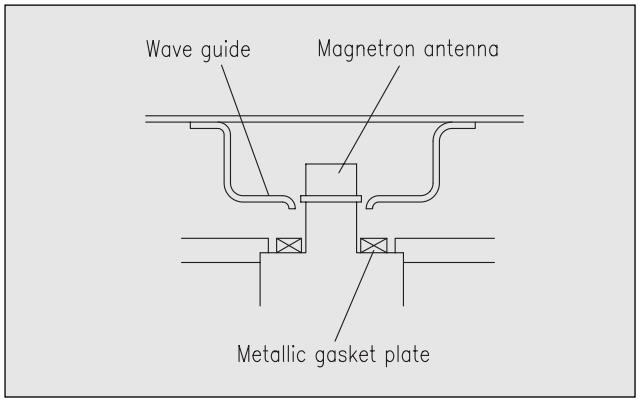
1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



NOTE : Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm² for a fully assembled oven with door normally closed.

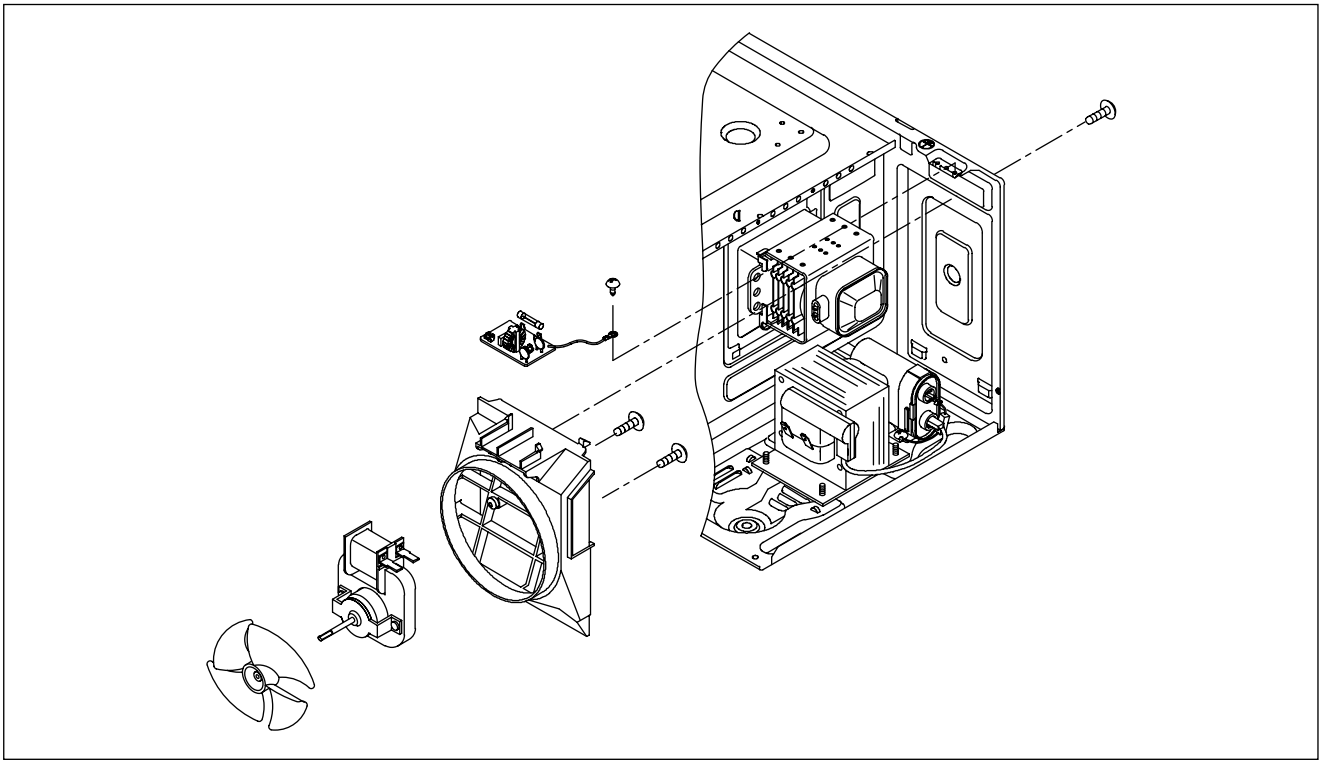


<MAGNETRON>



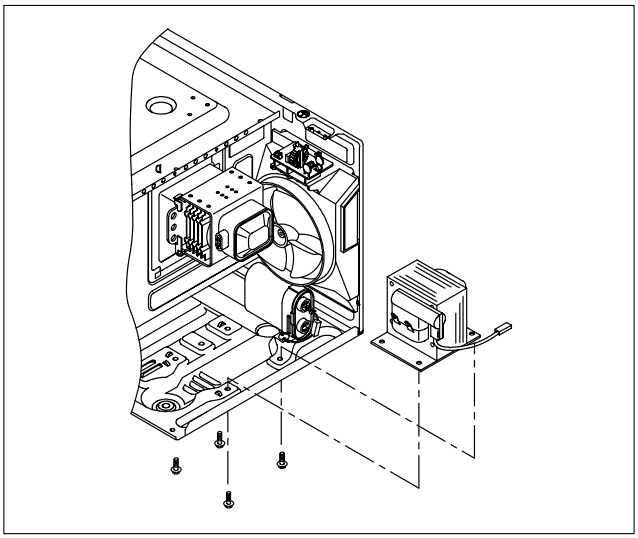
8. To remove wind guide assembly.

1) Remove a screw for earthing.
2) Remove the noise filter from the wind guide.
3) Remove a screw which secure the wind guide assembly.
4) Draw forward the wind guide assembly.
5) Pull the fan from the motor shaft.
6) Remove two screws which secure the motor shaded pole.
7) Remove the motor shaded pole.
8) Reverse the above steps for reassembly.



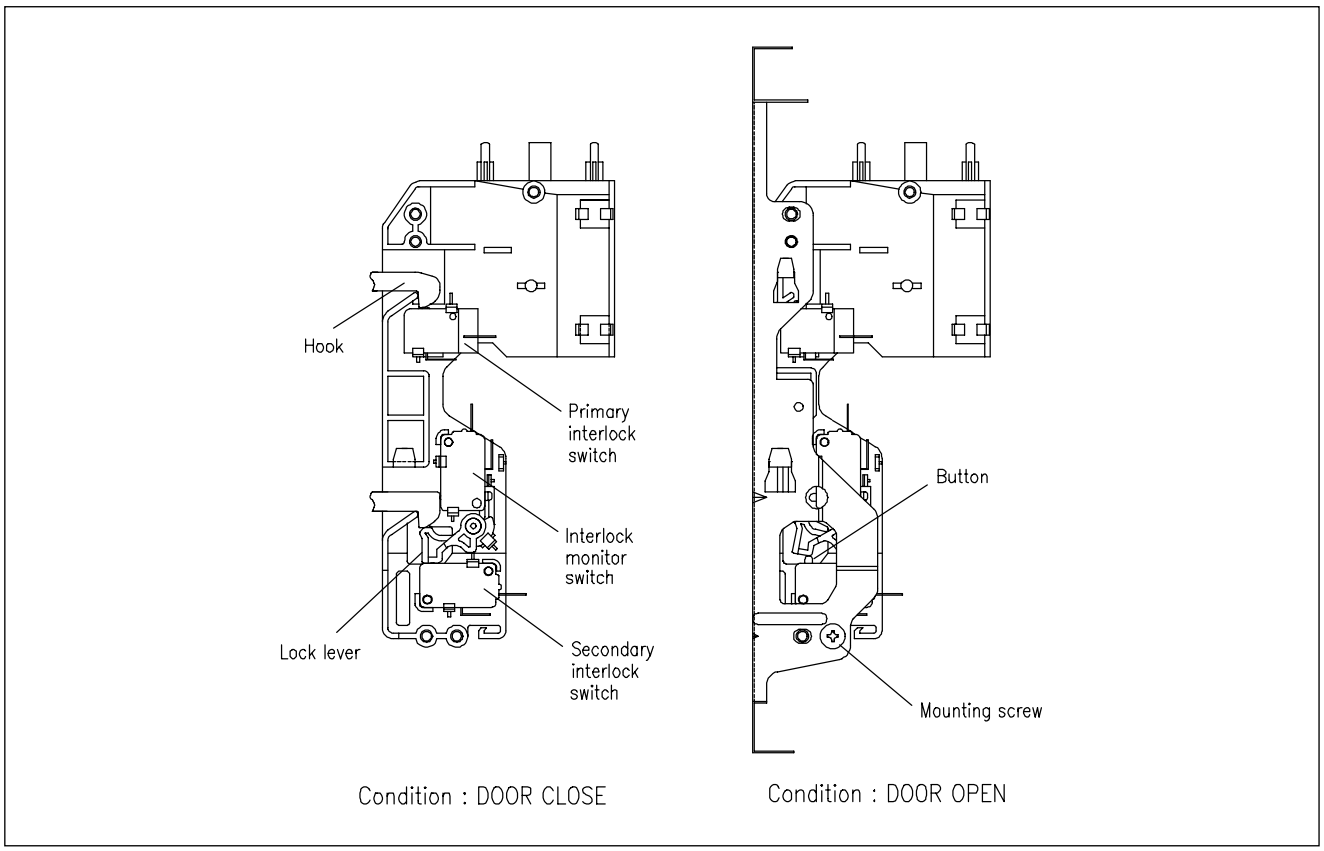
9. To remove H.V.transformer.

1) Remove four screws holding the H.V.transformer.
2) Remove the H.V.transformer.
3) Reverse the above steps for reassembly.



INTERLOCK MECHANISM AND ADJUSTMENT

The door lock mechanism is a device which has been specially designed to completely eliminate microwave radiation when the door is opened during operation, and thus to perfectly prevent the danger resulting from the leakage of microwave.



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not closed properly, the oven will not operate.
When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under NO condition and presses the button of the secondary interlock switch to bring it under ON condition.

ADJUSTMENT :
Interlock monitor switch
When the door is closed, the interlock monitor switch should be changed (NO condition) before other switches are closed.
When the door is opened, the interlock monitor switch should be changed (NC condition) after other switches are opened.

(3) Adjustment steps

a) Loosen the one mounting screws.
b) Adjust interlock switch assembly position.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely one mounting screws.

NOTE :
Microwave emission test should be performed after adjusting interlock mechanism. If the microwave smission exceed 4mW/cm^2, readjust interlock mechanism.

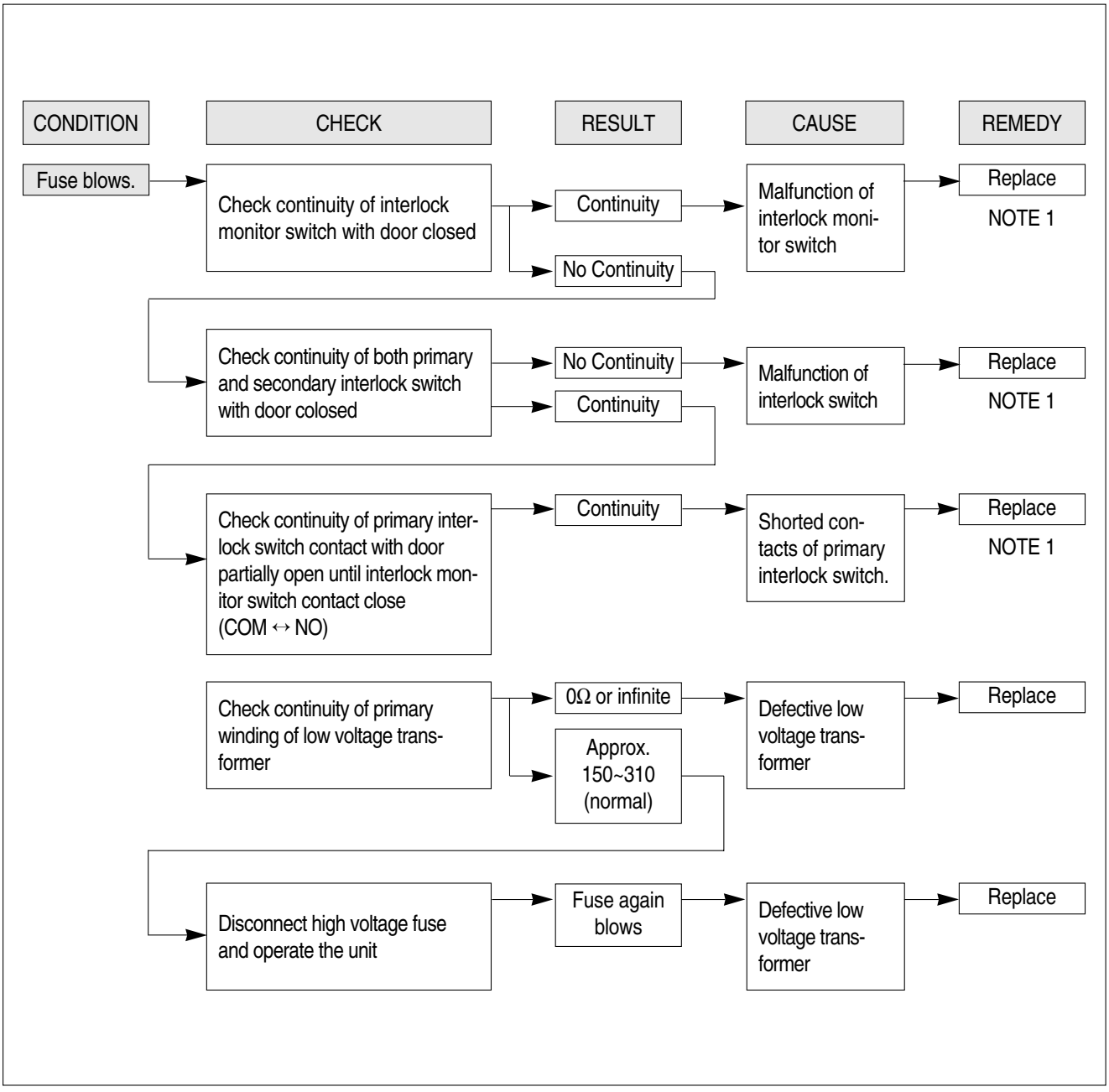
TROUBLE SHOOTING GUIDE

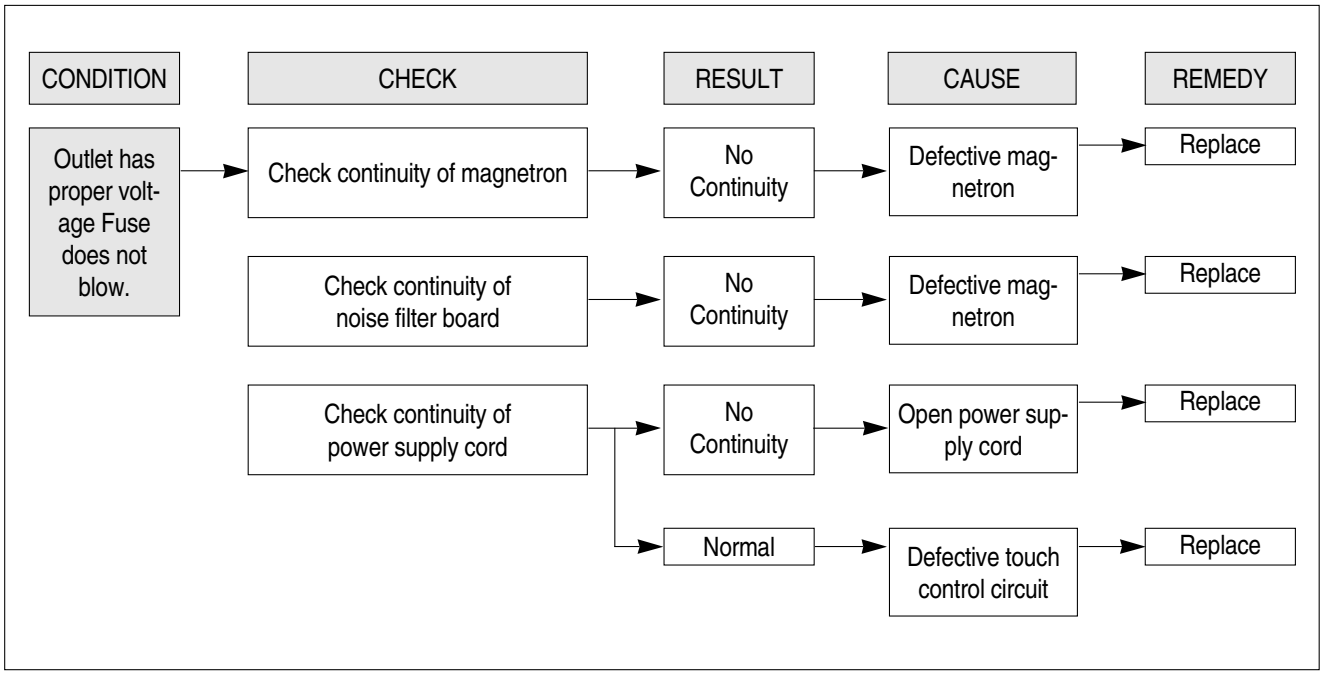
Following the procedure below to check if the oven is defective or not.

1. Check grounding before trouble checking.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor.
4. When checking the continuity of the switches, fuse or high voltage transformer, disconnect one lead wire from these parts and check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.

NOTE : When electric parts are checked, be sure the power cord is not inserted the wall outlet.
Check wire harness, wiring and connected of the terminals and power cord before check the parts listed below.

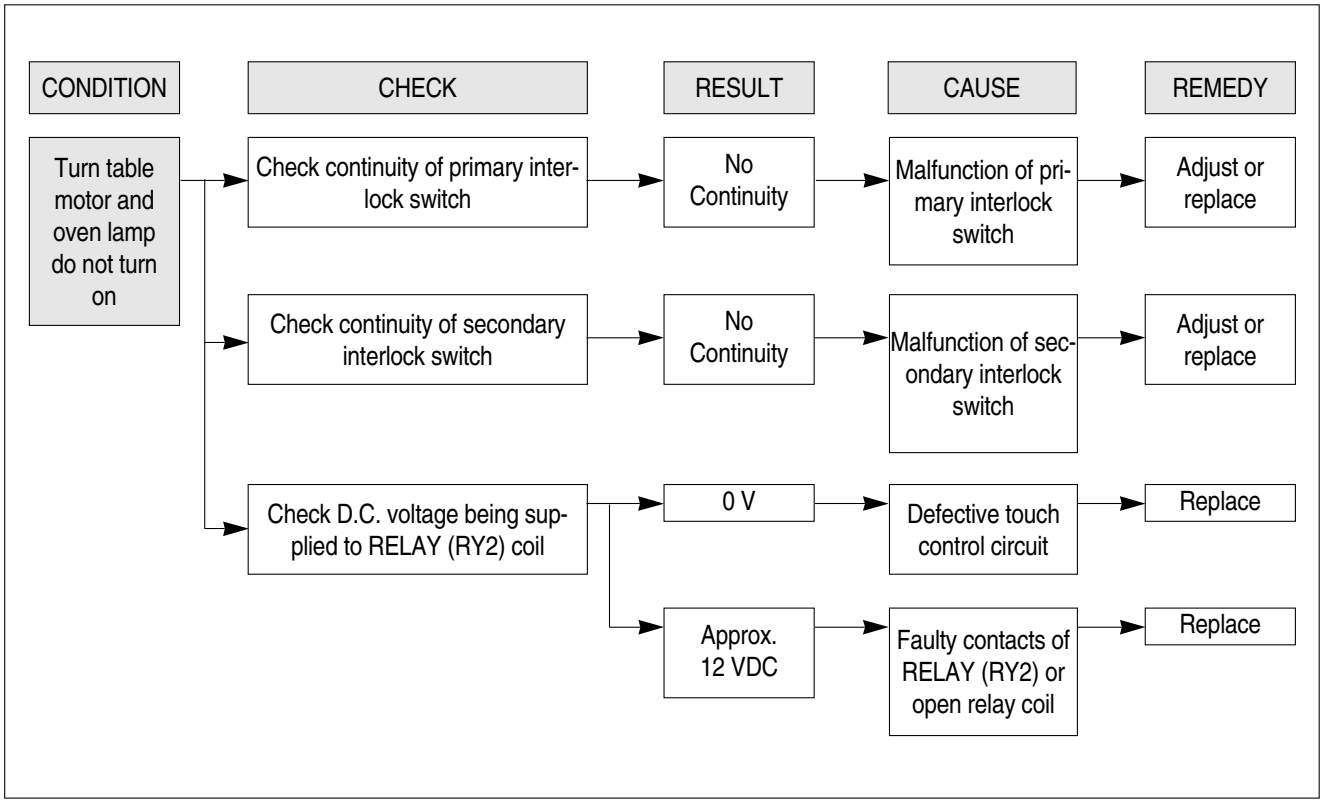
(TROUBLE 1) Oven does not operate at all ; any inputs can not be accepted.



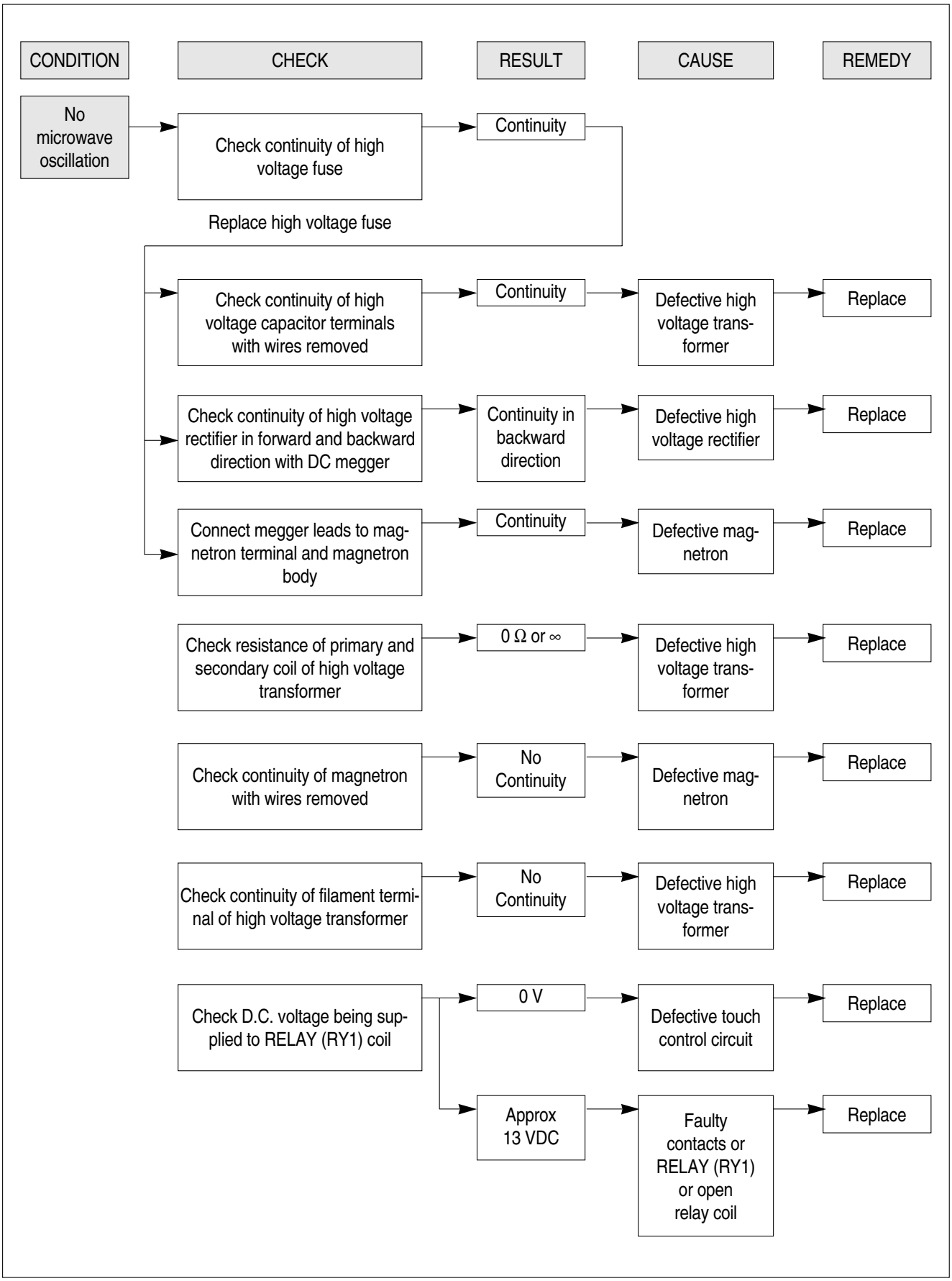


NOTE
All these switches must be replaced at the same time, please refer to “Interlock Mechanism And Adjustment”.

(TROUBLE 2) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start button is tapped.

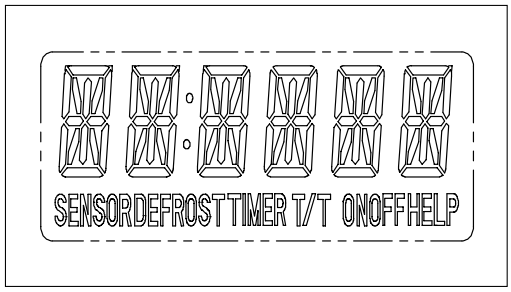


(TROUBLE 3) No microwave oscillation even though fan motor rotates.



(TROUBLE 4) The following visual conditions indicate a probable defective touch control circuit or membrane switch assembly.

1. Incomplete segments
   (1) Segments missing
   (2) Partical segments missing
   (3) Digit flickering other than normal display slight flickering
   (4) A phrase does not display when power is on.



2. A distinct change in the display are not on when they numbers is the display.
3. One or more digits in the display are not on when they should be.
4. Display indicates a number different from one touched.
5. Specific numbers (for example 2 or 3) will not display when the panel is touched.
6. Display does not count down or up with time cooking or clock operation.
7. Oven is programable and cooks normally but no display shows.
8. Display obviously jumps in time while counting down.
9. Display counts down noticeably too fast while cooking.
10. Display does not show the time of day when cancel pad is touched.
11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY 2 contacts close if they are close, replace touch control circuit.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Display does not show programming at all, even if keyboard is touched.	Check rach pad for continuity of the membrane keyboard for the following key-board check procedure	Normal	Malfunction of touch control circuit of control box sub-assembly	Replace con-trol box sub-assembly
		Abnormal	Malfunction of the membrane keyboard	Replace the membrane keyboard

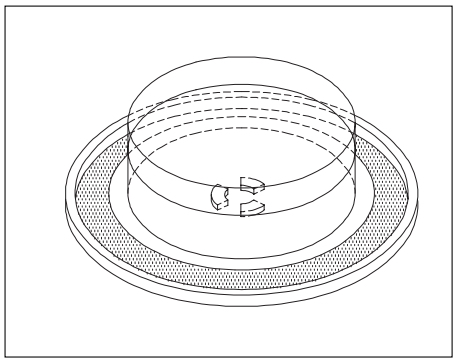
NOTE
Before following the particular steps listed above in the trouble shooting guide for the membrane keyboard's, failure, please check for the continuity of each wire-harness between the membrane keyboard and P.C.B. assembly.

MEASUREMENT AND TEST

1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE



1. Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 1000±5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test.
   The initial temperature of the water is 10±2˚C (50±3.6˚F)
   It is measured immediately before the water is added to the vessel.
   After addition of the water to the vessel, the load is immediately placed on the center of the shelf, which is in the lowest normal position.
4. Microwave power is switched on.
5. Heating time should be exactly **A** seconds. (Refer to table as following)
   Heating time is measured while the microwave generator is operating at full power.
   The filament heat-up time for magnetron is not included.
6. The initial and final temperature of water is selected so that the maximum difference between the ambient and final water temperature is 5K.
7. The microwave power output P in watts is calculated from the following formula :

   $P=4187 \times \triangle T/t$

   • $\triangle T$ is difference between initial and ending temperature.
   • t is the heating time.
   The power measured should be B (Refer to SPECIFICATIONS)W±10.0%.

CAUTION :
1. Water load should be measured exactly to 1 liter.
2. Input power voltage should be exactly specified voltage(Refer to SPECIFICATIONS).
3. Ambient temperature should be 20±2˚C(68±3.6˚F)

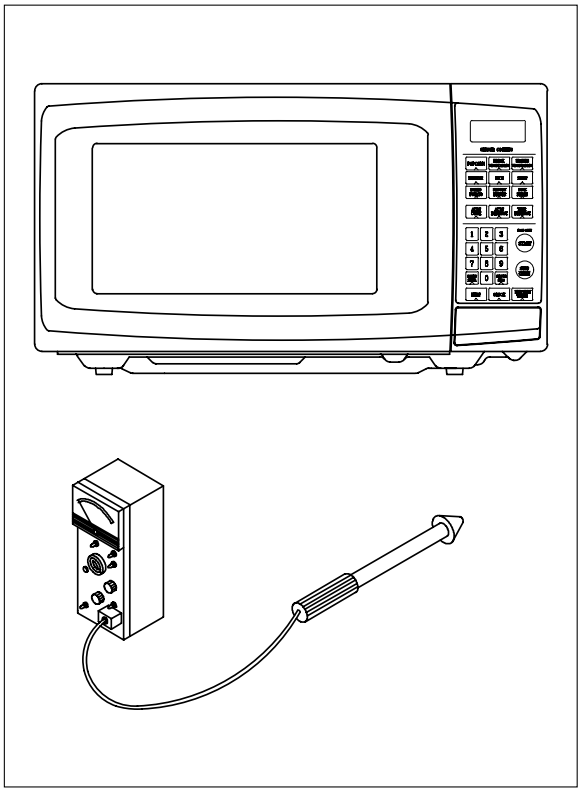
Heating time for power output:

A(second)	70	64	60	56	52	49	47	44	42	40	38
B(W)	600	650	700	750	800	850	900	950	1000	1050	1100

2. MICROWAVE RADIATION TEST

CAUTION :
1. Make sure to check the microwave leakage before and after repair of adjustment.
2. Always start measuring of an unknown field to assure safety for operating personnel from microwave energy.
3. Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
4. Care should be taken not to place the eyes in direct line with the source of microwave energy.
5. Slowly approach the unit under test until the radiometer reads an appreciable microwave leakage from the unit under the test.

PROCEDURES



1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100˚C(212˚F).

2. Pour 275cc±15cc of tap water initially at 20±5˚C(68±9˚F) in the 600cc glass beaker with an inside diameter of approx. 95mm(3.5in.).

3. Place it at the center of the tray and set it in a cavity.

4. Close the door and operate the oven.

5. Measure the leakage by using Microwave Energy Survey Meter with dual ranges, set to 2450MHz.

   1) Measured radiation leakage must not exceed the value prescribed below. Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm^2.

   2) When measuring the leakage, always use the 5cm(2in.) space cone with probe. Hold the probe perpendicular to the cabinet and door. Place the space cone of the probe on the door, cabinet, door seem, door viewing screen, the exhaust air vents and the suction air vents.

   3) Measuring should be in a counter-clockwise direction at a rate of 1 in./sec. If the leakage of the cabinet door seem is unknown, move the probe more slowly.

   4) When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 in. from any metal. If it does not, erroneous reading may result.

3. COMPONENT TEST PROCEDURE

- High voltage is present at the high voltage terminal of the high voltage transformer during any cooking cycle.
- It is neither necessary nor advisable to attempt measurement of the high voltage.
- Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor.

1. High voltage transformer

(1) Remove connections from the transformer terminals and check continuity.
(2) Normal readings should be as follows:
Secondary winding .....Approx. 140Ω±10%
Filament winding.....Approx. 0Ω
Primary winding .....Approx. 2Ω

2. High voltage capacitor

(1) Check continuity of capacitor with meter on the highest OHM scale.
(2) A normal capacitor will show continuity for a short time, and then indicate 10MΩ once the capacitor is charged.
(3) A shorted capacitor will show continuous continuity.
(4) An open capacitor will show constant 10MΩ.
(5) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

(1) Isolate the diode from the circuit by disconnecting the leads.
(2) With the ohmmeter set on the highest resistance scale measure the resistance across the diode terminals.
Reverse the meter leads and again observe the resistance reading.
Meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.

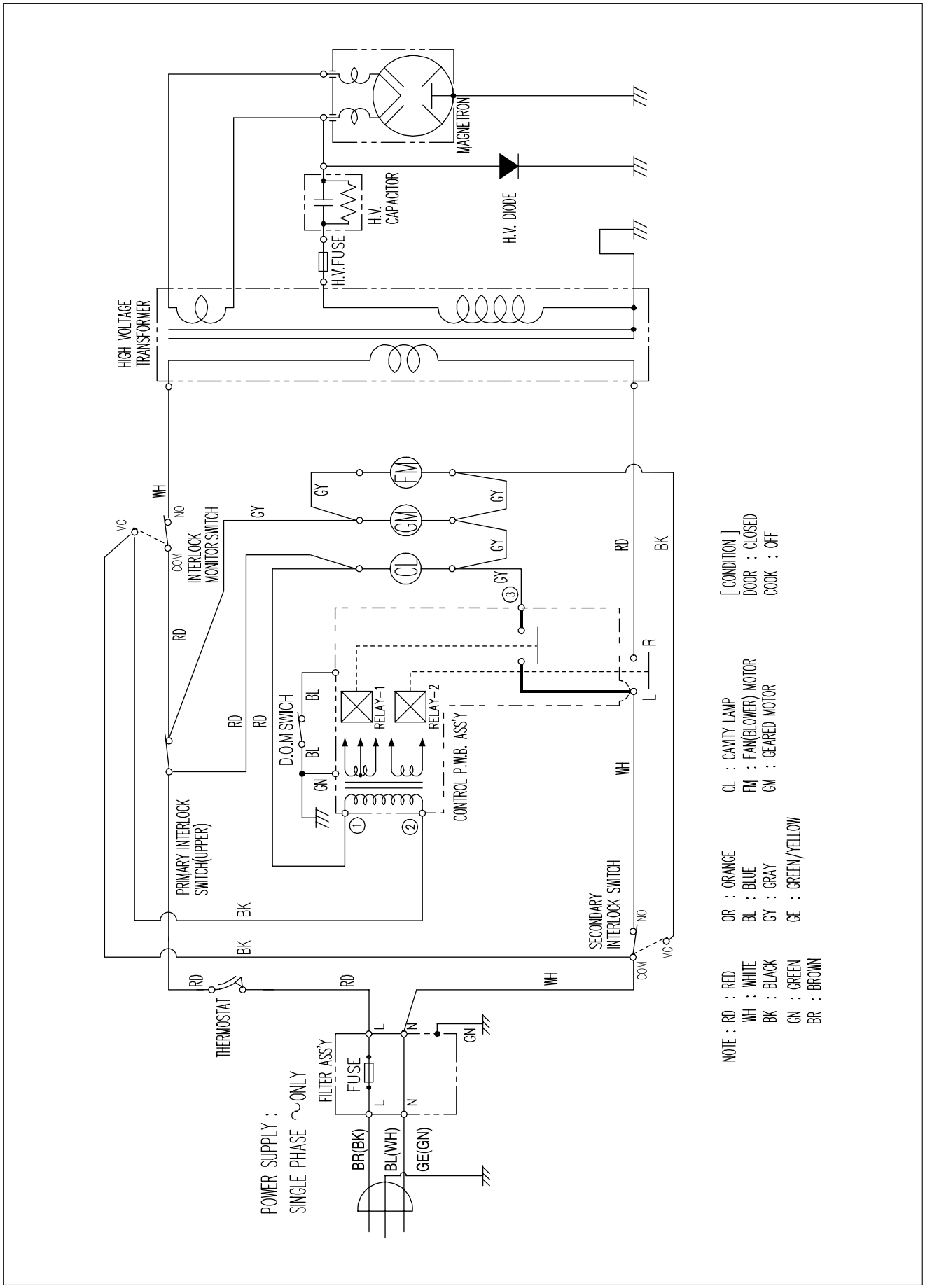
4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Power Output".
Continuity checks can only indicate and open filament or a shorted magnetron.
To diagnose for an open filament or a shorted magnetron.
(1) Isolate magnetron from the circuit by disconnecting the leads.
(2) A continuity check across magnetron filament terminals should indicate 0.1Ω or less.
(3) A continuity check between each filament terminal and magnetron case should read open.

5. Fuse

If the fuse in the primary and monitor switch circuit is blown when the door is opened, check the primary and monitor switch before replacing the blown fuse.
In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time.
Replace just the fuse if the switches operate normally.

WIRING DIAGRAM



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE

1. Low Voltage Transformer check

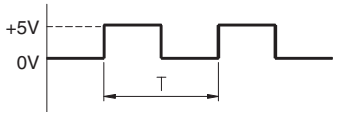
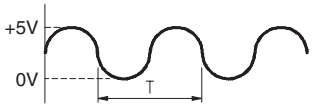
- The low voltage transformer is located on the P.C.B.
- Measuring condition: input voltage : 230V/Frequency : 50Hz

Terminal Voltage	LOAD	NO LOAD
4-7	AC 13.5 V	AC 32.0 V

NOTE :
1. Refer to Circuit Diagram (point 4).
2. Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.
3. The allowable tolerance of the secondary voltage is within ± 5% of nominal voltage.

2. Voltage check

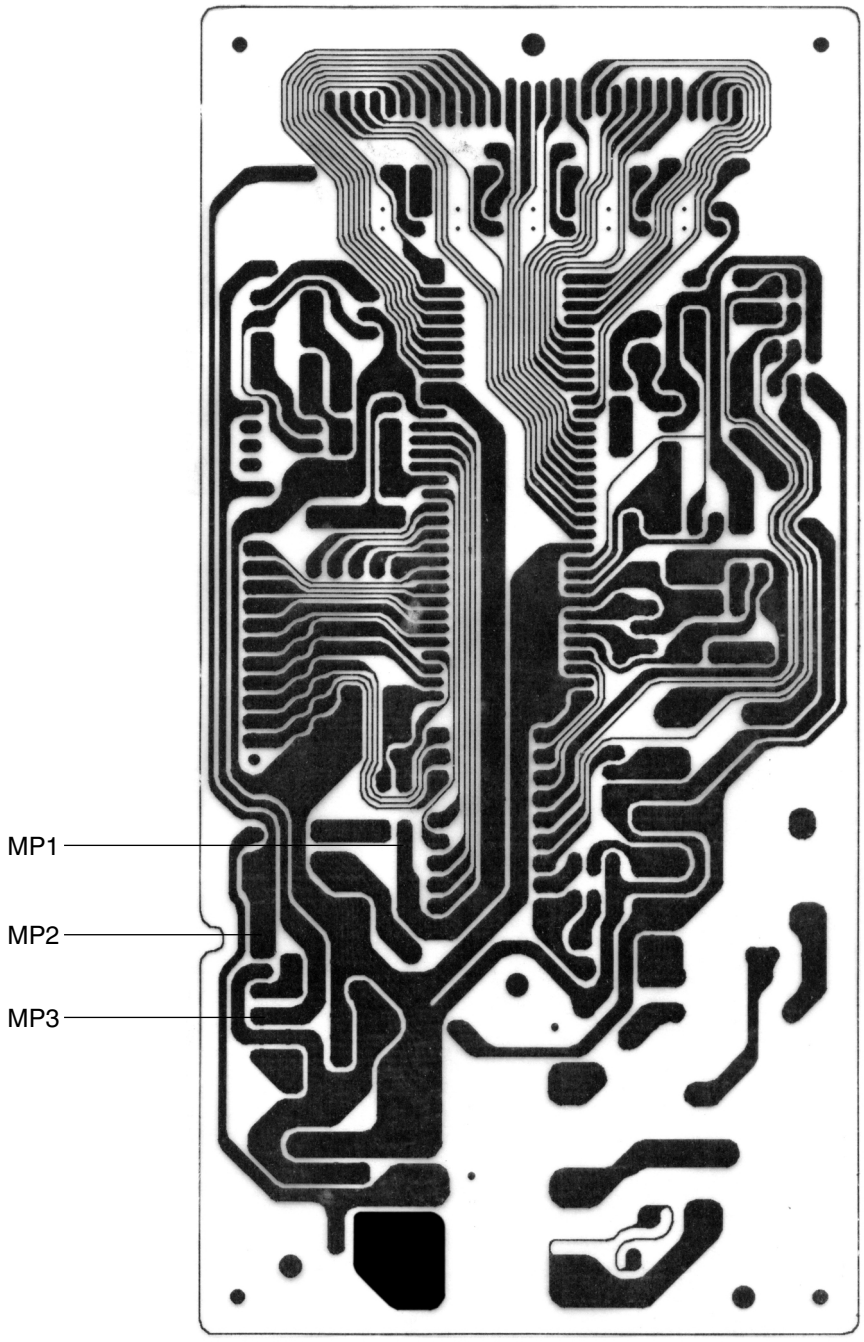
- Key check point

NO	CHECK POINT	REMARK
1	IC 1 PIN 55, 56	+5 VDC
2	IC 1 PIN 35	 T:20ms(50Hz)
3	IC 1 PIN 26 OR 27	 T:250ns(4MHz)

- Check method

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC +5V±0.25V	Replace ZD4, D5, EC3, R30	NO LOAD
2	MP2	DC +11.3V±2.0V	Replace Q9, R32, ZD5	NO LOAD
3	MP3	DC +11.3V±2.0V	Replace EC4, Q10, R34, ZD6	NO LOAD

NOTE :
Each measure point must be measured with GND point.



Measure Point

3. When there is no microwave oscillation

1) When touching **START** pad, oven lamp does not turn on.
Fan motor does not rotate, but cook indicator in display comes on.
* Cause : **RELAY 2** does not operate. → refer to Circuit Diagram (Point 3)
- Check method

STATE \ POINT	A	B
RELAY 2 ON	+5VDC	GND
RELAY 2 OFF	GND	+12VDC

2) When touching **START** pad, oven lamp turns on.
Fan motor and turntable rotate and cook indicator in display comes on.
* Cause : **RELAY 1** does not operate. → refer to Circuit Diagram (Point 2)
- Check method

STATE \ POINT	A	B
RELAY 1 ON	+5VDC	GND
RELAY 1 OFF	GND	+13VDC

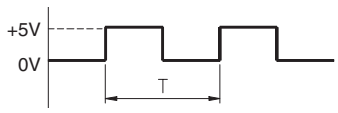
4. When the door is opened during operation, the count down timer does not stop.
→ refer to Circuit Diagram (Point 1)
-Check method

STATE \ POINT	A	B
1) DOOR OPEN	OPEN	+5VDC
2) DOOR CLOSED	CLOSE	GND

CHECK NO	METHOD	REMEDY
1	Check the stage (ON, OFF) of the door open monitor switch by resistance measurement.	Replace door open monitor switch.

5. When the digital clock does not operate properly.
→ refer to Circuit Diagram (Point 5)

* If clock does not keep exact time, you must check resistor R25, R26 zener diode ZD3.

POINT	WAVE FORM
A	 T:20ms(50Hz)

6. When Er01 & Er03 come on display.

→ Refer to Circuit Diagram (Point 6)

-Check method

* If AUTO REHEATING just operating, checking point A, B, C & D after 1~2 minutes.

NO	CHECK POINT	REMARK	Tolerance
1	A	0.5 ≤ VALUE ≤ 3.5V	-
2	B	11.3Vdc	± 5%
3	C	4.4Vdc	± 5%
4	D	2.2Vdc	± 5%

* R20~24 & connecting status of humidity sensor must be checked before checking point A, B, C & D.

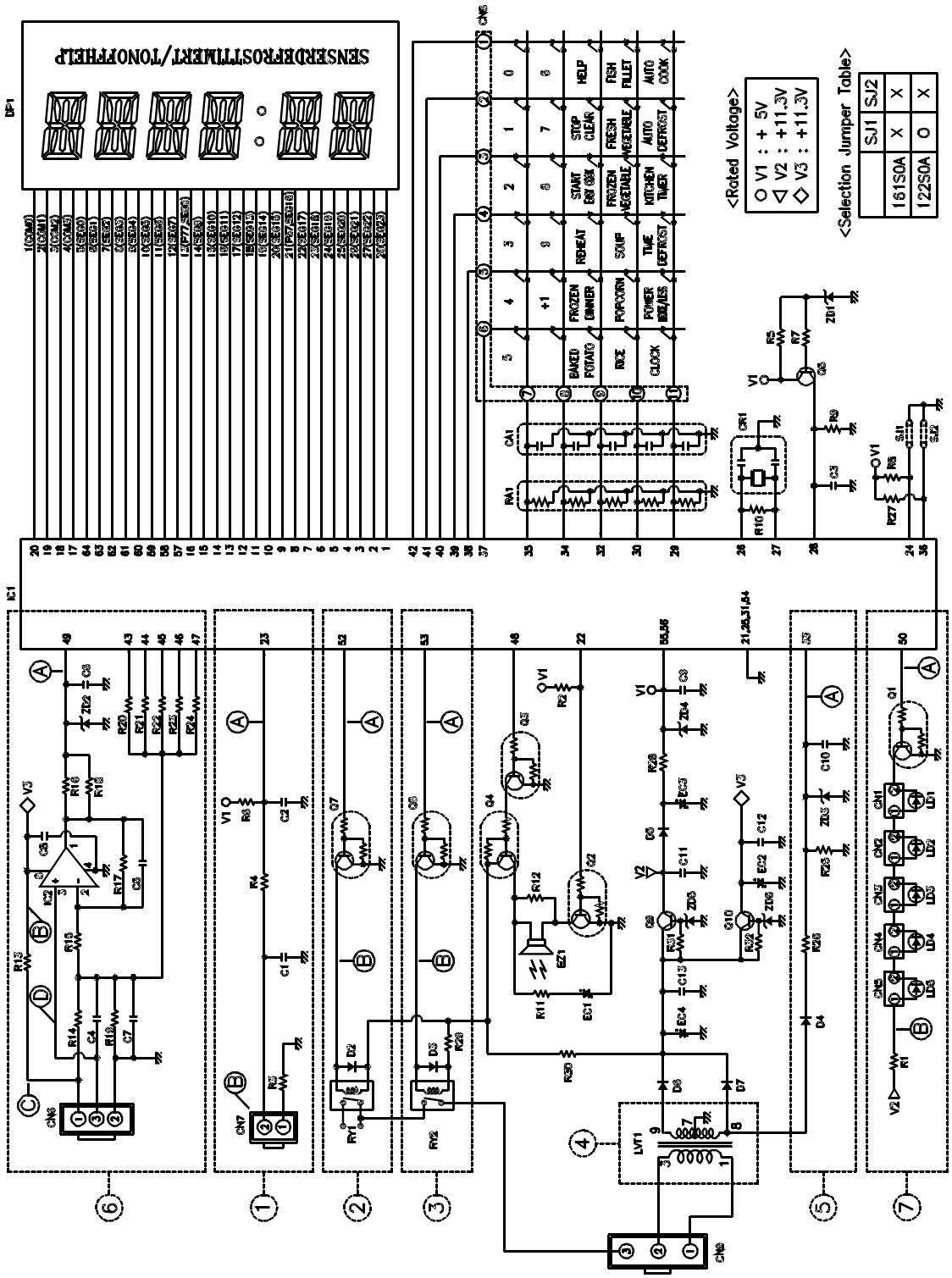
7. When the oven is plugged in or during operation, the display does not turn on.

→ refer to Circuit Diagram (Point 7)

-Check method

Point	WAVEFORM
A	+5VDC
B	+10.8VDC (±1V)

2. PCB CIRCUIT DIAGRAM



✔ **Caution**: In this Service Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service information Center(http://svc.dwe.co.kr)

3. P.C.B. LOCATION NO.

1) KOR-1A6S9S

NO.	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	PCB MAIN	M172	87X175MM	3514323200	1
2	BUZZER	BZ1	BM-20K	3515600100	1
3	CAPACITOR ARRAY	CA1	8P(7) 1000PF M50V	CN7XB-102M	1
4	CAPACITOR CERA	C1~5, C7~13	50V 104Z AXIAL	CCZF1H104Z	12
5	CAPACITOR CERA	C6	50V 102K AXIAL	CCZB1H102K	1
6	CAPACITOR ELECTRO	EC1	50V RSS 100MF	CEXF1H101V	1
7	CAPACITOR ELECTRO	EC2	50V RS 10MF	CEXE1H100A	1
8	CAPACITOR ELECTRO	EC3	25V RSS 470MF	CEXF1E471V	1
9	CAPACITOR ELECTRO	EC4	25V RSS 100MF	CEXF1E101V	1
10	CAPACITOR ELECTRO	EC5	35V RSS 1000MF	CEXF1V102V	1
11	COLOR FILTER	CF1	PET, 100UM	3511900500	1
12	CONNECTOR WAFER	CN1~5	42140-2202	3519106010	5
13	CONNECTOR WAFER	CN6	35312-0312 RED	30166M503R	1
14	CONNECTOR WAFER	CN7	YW396-02V	3519150520	1
15	CONNECTOR FILM	CN8	FCZ 254-11	441M367160	1
16	CONNECTOR WAFER	CN9	YW396-05AV	3519150510	1
17	DIODE SWITCHING	D2~6	1N4148	DZN4148---	5
18	DIODE RECTIFY	D7,8	KN4004A	DZN4004A--	2
19	DIODE ZENER	ZD1	UZ-3.3BSB 1/2W	DZUZ3R3BSB	1
20	DIODE ZENER	ZD2,3	UZ-4.7BSB 1/2W	DZUZ4R7BSB	2
21	DIODE ZENER	ZD4	UZ-5.1BSB 1/2W	DZUZ5R1BSB	1
22	DIODE ZENER	ZD5,6	UZ-12BSC 1/2W	DZUZ12BSC-	2
23	DISPLAY LCD	DP1	KXN33180DAP	DKXN33180D	1
24	HOLDER LCD	DPH	ABS, SG-175	3513003500	1
25	IC MICOM	IC1	TMP87CK29N-1K81	13GS161S2A	1
26	IC OP AMP	IC2	KA358 (OP AMP)	1LM358----	1
27	LED	LD1~5	DLG-314D	DDLG314D--	5
28	R ARRAY	RA1	6P(5) 1/8 100K 5%	RA-86X104J	1
29	R CARBON FILM	R2,5,6,8,11,28	1/6W 1K 5%	RD-AZ102J-	6
30	R CARBON FILM	R3,4	1/6W 100 5%	RD-AZ101J-	2
31	R CARBON FILM	R7,27	1/6W 100K 6%	RD-AZ104J-	2
32	R CARBON FILM	R9	1/6W 47K 5%	RD-AZ473J-	1
33	R CARBON FILM	R10,19,20	1/6W 200 5%	RD-AZ201J-	3
34	R CARBON FILM	R12,26,29	1/6W 10K 5%	RD-AZ103J-	3
35	R CARBON FILM	R13,21	1/6W 1M 5%	RD-AZ105J-	2
36	R CARBON FILM	R15,17	1/6W 3.32K 1%	RN-AZ3321F	2
37	R CARBON FILM	R16	1/6W 1.82K 1%	RN-AZ1821F	1
38	R CARBON FILM	R18	1/6W 357K 1%	RN-AZ3573F	1
39	R CARBON FILM	R22	1/6W 604K 1%	RN-AZ6043F	1
40	R CARBON FILM	R23	1/6W 301K 1%	RN-AZ3013F	1

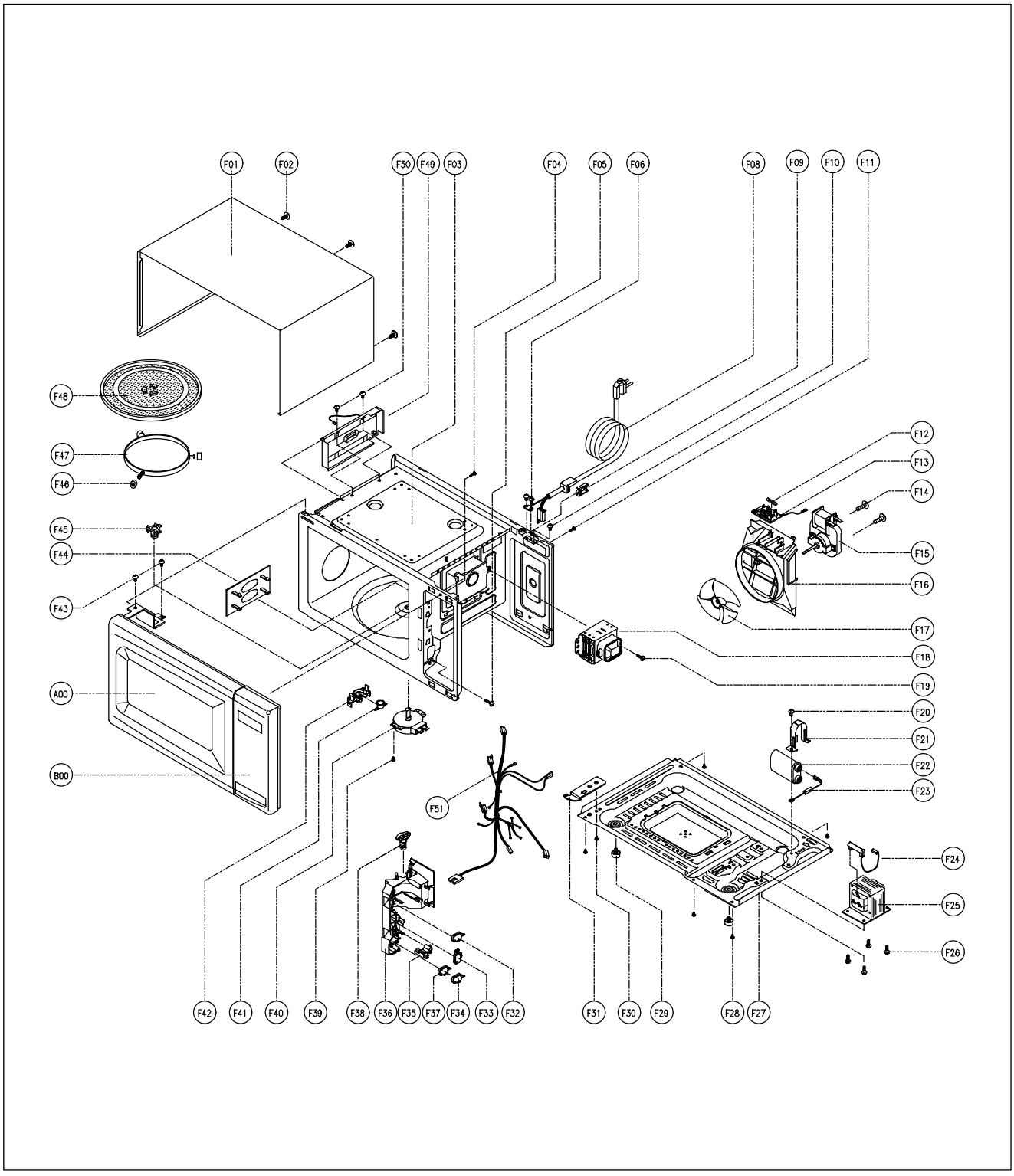
NO.	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
41	R CARBON FILM	R24	1/6W 150K 1%	RN-AZ1503F	1
42	R CARBON FILM	R25	1/6W 75K 1%	RN-AZ7502F	1
43	R CARBON FILM	R1,31	1/4W 27 5%	RD-4Z270J-	2
44	R CARBON FILM	R33	1/4W 15 5%	RD-4Z150J-	1
45	R CARBON FILM	R32,34	1/4W 1K 5%	RD-4Z102J-	2
46	R CARBON FILM	R14,30	1/2W 200 5% SMALL	RD-2Z201JS	2
47	RESONATOR CERA	CR1	CRT4.00MS	5P4R00MTS-	1
48	SW RELAY	RY1	G5G-1A 1C 1P DC12V	5SC0101121	1
49	SW RELAY	RY2	CS11-12SH 1C 1P	5SC0101128	1
50	TRANSISTOR	Q1,2,7,8	KRC-106M	TZRC106M--	4
51	TRANSISTOR	Q3,9,10	KTC-3198GR	TZTC3198GR	3
52	TRANSISTOR	Q4	KRA-106M	TZRA106M--	1
53	TRANSISTOR	Q5	KTA-1266Y	TZTA1266Y-	1
54	TRANS POWER	LVT1	DMR-161FS	5EPV035308	1
55	WIRE COPPER	J1~4,7,16	1/0.52 TIN COATING	85801052GY	6
56	WIRE COPPER	J5,6,8,12	1/0.52 TIN COATING	85801052GY	4
57	WIRE COPPER	J9~11,13,15	1/0.52 TIN COATING	85801052GY	5
58	WIRE COPPER	SJ1,SJ2	1/0.52 TIN COATING	85801052GY	2

EXPLODED VIEW AND PARTS LIST

1. DOOR ASSEMBLY
Refer to Disassembly and assembly.

2. CONTROL PANEL ASSEMBLY
Refer to Disassembly and assembly.

3. TOTAL ASSEMBLY



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NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
A00	3511711240	DOOR AS	KOR-1A6A3A	1
B00	PKCPSWAP00	CONTROL PANEL AS	KOR-1A6S9S	1
F01	3510805500	CABINET	KOR-1A1G0A LOUVER	1
F02	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	3
F03	3516110400	CAVITY AS	KOR-1A1G0A	1
	3516110100	CAVITY WELD AS	KOR-1A1G0A	1
F04	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F05	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F06	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	2
F08	35113AARM5	CORD POWER AS	3X1.0 60X60 120-RTML	1
F09	4413A90012	CLAMP POWER CORD	NYLON66	1
F10	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	1
F11	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F12	4415D67620	FUSE	250V 12A 65TS	1
	4415D67120	FUSE	250V 12A MDA	1
F13	3518606200	NOISE -FILTER	DWLF-M12	1
F14	7121402511	SCREW TAPPING	T2S PAN 4X25 MFZN	2
F15	3963512310	MOTOR SHADED POLE	230V 20W MW10CA-M02	1
F16	3512524100	GUIDE WIND	PP GP3152F FH44N NC	1
F17	3511800300	FAN	PP+30%GLASS	1
F18	3518003200	MAGNETRON	2M218H(F)P	1
F19	3516004000	SPECIAL SCREW	T2 BOLT FLANGE 5X12 DACRO	1
F20	7272400811	TAPTITE SCREW	TT3 TRS 4*8 MFZN	1
F21	3513003200	HOLDER HV CARACITOR	SECC T0.6	1
F22	3518302300	CAPACITOR HV	2100VAC 1.1μF #187	1
F23	3518400400	DIODE HV	HVR-1X-3AB 12KV #187	1
F24	3518700230	FUSE HV	5KV 0.7A HV-41A70-1 #187	1
F25	3518114510	TRANS HV	DY-N95S0-16T	1
F26	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4
F27	3510312400	BASE	SBHG T0.7	1
F28	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	5
F29	3512100900	FOOT	PP DASF-130	2
F30	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1
F31	3515202200	STOPPER HINGE *U	SCP-1 T3.2	1
F32	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1
F33	4415A66910	SW MICRO	VP-531A-OF/SZM-V16-FA-61	1
F34	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1
F35	3513702600	LEVER LOCK	POM	1
F36	3513815800	LOCK	POM	1
F37	3518571000	SW MICRO	MP101C	1
F38	3513601600	LAMP	BL 240V 25W T25 C7A H187	1
F39	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1
F40	3966030900	MOTOR SYNCRO	220-240V 50HZ TYJ50-8A	1
F41	3518905400	THERMOSTAT	OFF:90 ON:60 H #187 NB	1
F42	3513003400	HOLDER THERMOSTAT	PP	1
F43	7272400811	SCREW TAPITITE	TT3 TRS 4X8 MFZN	2
F44	3511406200	COVER WAVE GUIDE	HEATPROOF PP	1
F45	3517400620	COUPLER	XAREC	1
F46	3514701501	ROLLER	TEFLON DIA:14.5	3
F47	3512519300	GUIDE ROLLER	PP 5116MF6 A353B	1
F48	441CD35011	TRAY	GLASS	1
F49	3512518500	GUIDE AIR OUTLET AS	KOR-122S7A	1
F50	7112401011	SCREW TAPPING	T1 TRS 4X10 MFZN	2
F51	3512717200	MAIN HARNESS	KOR-1A1G0S	1

686, AHYEON-DONG MAPO-GU SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA
TELEX: DWELEC K28177-8
CABLE: “DAEWOOELEC”

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